the present time. The paper includes a summary of many scattered contributions, and makes it clear that he had recognized, much earlier than BAUR, the infectious character of certain forms of variegation. He contends, rightfully, that chlorosis is an inept term.—C. R. B.

Sap rot of red gum.—VON SCHRENK[51] describes diseases due to fungi which infect the sapwood of red gum (Liquidambar) when the logs lie in the forest while wet, and continue to spread, to the destruction of the lumber when cut. *Polyporus adustus*, *Polystictus hirsutus*, and *Poria subacida* are the most frequent enemies, but there are a number of others. Sap rot may be prevented by hastening the drying or by coating the ends of the logs as soon as cut with hot coal tar. Similar diseases injure the heartwood of red gum and also affect the swamp oak and maple.—C. R. B.

Cytology of Microsphaera.—SANDS[52] has shown that during all stages in the life-history of Microsphaera a central body is differentiated as a permanent nuclear structure, which serves as a point of attachment for the chromatin. It is always extranuclear, never intranuclear, as claimed by MAIRE and GUILLIERMOND. The delimitation of spores is accomplished by the astral rays persisting from the third mitosis in the ascus. The work in this respect supports the conclusions of HARPER rather than those of FAULL.—CHARLES J. CHAMBERLAIN.

Morphology of Cornus florida.—MORSE[53] has investigated *Cornus florida* and found the following facts: the male gametophyte passes the winter in the two-celled stage; no walls separate the nuclei of the linear megaspore tetrad; the embryo sac probably passes the winter in the eight-nucleate stage, which persists until the last of May, when pollination occurs; the synergids are slender cones projecting far into the micropyle; the endosperm tissue is formed first in the micropylar end of the sac, and by the middle of July completely fills the sac.—J. M. C.

Fossil flora of Florissant.—COCKERELL[54] has enumerated the known flora of the Florissant shales (Miocene), including 106 genera, 45 of which occur in Colorado today. Of the genera not occurring now in Colorado, 36 occur in our eastern and southern states, the conclusion being reached that a flora similar to that of the Carolinian region occupied the Rocky Mountains during the Miocene. About 50 new species are described, including a Chara, a fungus, four ferns, and two gymnosperms.—J. M. C.

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[51] VON SCHRENK, H., Sap rot and other diseases of the red gum. U. S. Dept. Agric., Bur. Pl. Ind., Bull. 114. pp. 32. *pls. 8.* 1907.

[52] SANDS, M. C., Nuclear structure and spore formation in *Microsphaera alni*. Trans. Wis. Acad. Sci. **15**:733–752. *pl. 46.* 1907.

[53] MORSE, WILLIAM CLIFFORD, Contribution to the life history of *Cornus florida*. Ohio Naturalist **8**:197–204. *pl. 14.* 1907.

[54] COCKERELL, T. D. A., The fossil flora of Florissant, Colorado. Bull. Amer. Mus. Nat. Hist. **24**:71–110. *pls. 6–10.* 1908.